2003 Urban Water Conservation Program Application



High-Efficiency Clothes Washer Rebate Program

Submitted by the City of Hemet



Submitted to:

California Department of Water Resources,
Office of Water Use Efficiency
P.O. Box 942836
Sacramento, California 94236-0001
Attention: Marsha Prillwitz

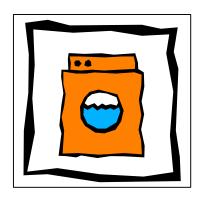


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Application Part A — Project Description, Organizational, Financial and Legal Information



A-1 Urban Water Conservation Grant Application Cover Sheet

	 Applicant (Organization or affiliation): <u>City of Hemet</u> Project Title: High-Efficiency Clothes Washer Rebate Program 					
3.		Roger 445 E (909) (909)	proposal: <u>Meadows, Mayor</u> . Florida Avenue Hemet 765-2301 765-3785 ows@cityofhemet.org	, CA 92543		
	A. Contact person (if different): Name, Title Mailing address Telephone Fax E-mail Linda Nixon, Management Assistant 3777 Industrial Avenue, Hemet CA (909) 765-3880 (909) 765-2493 Inixon@cityofhemet.org					
5.	Funds requested (dollar amount)	:		\$ 50,000		
6.	Applicant funds pledged (local co	ost shar	e) (dollar amount):	\$ 3,750		
7.	7. Total project costs (dollar amount): \$ 53,750					
8.	8. Estimated net water savings (acre-feet/year): Estimated total amount of water to be saved (acre-feet) Over 13 years Benefit/cost ratio of project for applicant: Estimated \$/acre-feet of water to be saved: \$ 8.16 106.08 \$ 1.005 \$ 6,103.11					
9.	9. Project life (month/year to month/year): 10/03 to 12/04					
10.	State Assembly District where th	e projed	ct is to be conducted:	65		
11.	11. State Senate District where the project is to be conducted: 31					
12.	12. Congressional District(s) where the project is to be conducted: 44					
13.	13. County where the project is to be conducted: Riverside					
14.	14. Do the actions in this application involve physical changes in land use, or potential future changes in land use? (a) Yes					

(if yes, complete the land use check list and submit it with the proposal)	
(b) No	

A-2 Application Signature Page

By signing below, the official declares the following:

- The truthfulness of all representations in the application;
- The individual signing the form is authorized to submit the application on behalf of the applicant;
- The individual signing the form read and understood the conflict of interest and confidentiality section and waives any and all rights to privacy and confidentiality of the application on behalf of the applicant; and
- The applicant will comply with all terms and conditions identified in this Application Package if selected for funding.

	Roger Meadows, Mayor	11-26-02	
Signature	Name and Title	Date	

A-3 Application ChecklistComplete this checklist to confirm all sections of this application package have been completed.

Part A:	Project Description, Organizational, Financial and Legal Information
✓	_ A-1 Urban Water Conservation Grant Application Cover Sheet
✓	_ A-2 Application Signature Page
✓	_ A-3 Application Checklist
✓	_ A-4 Description of project
N/A	_ · · · · · · · · · · · · · · · · · · ·
√	_ A-6 Statement of work, schedule
√	_ A-7 Monitoring and Evaluation
✓	_ A-8 Qualifications of the applicant and Cooperators
✓	_ A-9 Innovation
√	_ A-10 Agency authority
N/A	A-11 Operation and Maintenance
Part B:	Engineering and Hydrologic Feasibility (construction projects only)
N/A	B-1 Certification statement
N/A	B-2 Project reports and previous studies
N/A	B-3 Preliminary project plans and specifications
	B-4 Construction inspection plan
Part C:	: Plan for Environmental Documentation and Permitting
	_ C-1 CEQA/NEPA
N/A	_ C-2 Permits, easements, licenses, acquisitions, and certifications
N/A	= · · · · · · · · · · · · · · · · · · ·
	C-4 State and local statutes and regulations
	: Need for Project and Community Involvement
√	D-1 Need for project
✓	_ D-2 Community involvement, support, opposition
Part E:	Water Use Efficiency Improvements and Other Benefits
	E-1 Water use efficiency improvements
√	_ E-2 Other project benefits
	Economic Justification, Benefits to Costs Analysis
<u>√</u>	F-1 Net water savings
√	F-2 Project budget and budget justification
√	
✓	Benefit/Cost Analysis Tables 1; 2; 3; 4a, 4b, 4c, 4d; and 5

A-4 Description of Project

Project Purpose

The purpose of the proposed project is to improve water use efficiency through the implementation of a rebate program to encourage customers of the City of Hemet Water Department to replace top-loading agitator washing machines with high-efficiency Energy Star™ clothes washers. The program will offer 400 rebates in the amount of \$125 to City of Hemet Water Department customers upon proof of purchase of an Energy Star™ high-efficiency clothes washer and completion of a rebate request form.

Project Goals

- 1) Improve water use efficiency
- 2) Promote water conservation
- 3) Public education

Project Outcomes

Replacement of a top-loading agitator washer with a new high-efficiency clothes washer will result in an estimated water savings of 6,647 gallons annually. The replacement of 400 agitator washers with high-efficiency models will result in a water savings of 8.16 acre-fee per year. At a the current cost of \$ 747.92/acre-foot, this is a total annual cost savings of \$6,103.11

Project Benefits

- 1) Reduced pumping of groundwater (8.16 acre-feet per year)
- 2) Increased focus on water conservation
- 3) Savings in cost of water (\$6,103.11 annually)
- 4) Additional benefits associated with high-efficiency clothes washers, i.e., use less detergent, use less energy, clean clothes better, clean more gently, reduce drying time.

Project Costs

The total cost of this project is estimated to be \$53,750. This includes \$50,000 in rebates (400 @ \$125) and \$3,750 in advertising and program administration.

A-5 Maps

For construction projects, provide a detailed map of the project area, preferably a 1:24,000 scale copy or original of a 7.5-minute USGS quad sheet. Mark the location of the project components. Identify the water source and all conveyances from the water source to the proposed project on the map.

Not applicable to proposed project.

A-6 Statement of Work, Schedule

Project Plan & Work Schedule Proposed High-Efficiency Clothes Washer Rebate Program

TASK	DELIVERABLE ITEMS	START	END	ESTIMATE D COST
Program Development	 (All items listed - 20 hours @ \$39/hour) Develop program instructions, rebate forms Establish financial procedures for issuing rebates Develop advertising campaign (press releases, paid ads, utility bill inserts) Develop database for record keeping and program evaluation 	Month 1	Month 3	775.00
Program				
Implementation	Initiate advertising campaign	Month 3	Month 14	2,000.00
promorrous	• Issue rebates	Month 5	Month 16	50,000.00
	Process rebate requests / Maintain database			
	(17 hours @ \$39/hour)	Month 4	Month 16	663.00
Program Reporting	Prepare Quarterly Fiscal & Programmatic Reports: (All reports - 8 hours @ \$39/hour)			312.00
	Reporting Periods	Malo	34.41.4	
	• Month 1 - Month 3	Month 3	Month 4	
	• Month 4 - Month 6	Month 6 Month 9	Month 7 Month 10	
	 Month 7 – Month 9 Month 10 – Month 12	Month 12	Month 10	
	Annual Report	Month 15	Month 16	
	- Annua Report	1,1011(11 10	1,1011011 10	
	TOTAL COSTS			53,750.00
	101111111111111111111111111111111111111			00,100

A-7 Monitoring and Evaluation

Monitoring and Assessment Procedures

Monitoring and assessment procedures will be used to document water savings as a result of the proposed project, including a comparison of current customer water use with historic data (billing records). Information on water customers taking advantage of the proposed program will be recorded in a computerized database. Water use before and after purchase of a high-efficiency clothes washer will be recorded and compared in order to determine the success of the project.

The goal of the program is to encourage water conservation through water use efficiency. The reduction in water use achieved will be the performance measure used to evaluate the project.

Products/Outcomes

The publicity component of the proposed rebate program is expected to

- 1) Encourage eligible water customers to participate in the program; and
- 2) Educate the public about the availability of high-efficiency clothes washers, even if they are not able to take advantage of the rebate program.

A-8 Qualifications of the Applicant and Cooperators

Include a resume(s) of the project manager(s). Resumes may be attached to the end of the Application and shall not exceed two pages.

Project Manager: Edward L. Starner

<u>Water/Waste Water Administrative Supervisor</u> – City of Hemet November 1992 to Present

Under the direction of the Water/Waste Water Superintendent, responsible for the customer service program, water system operations, and the water quality and conservation program.

Education

Water Treatment I, II
Water Distribution I, II
Cross-Connection, Law and Theory
Cross-Connection, Field Testing
Disinfection Techniques
Tri-State Water/Waste Water 26 hour training seminar
Management in the Public Sector, Modules 1 & 2

Certifications

State of California Department of Health Service – Water Treatment Operator Grade II

State of California Department of Health Service – Water Distribution Operator Grade IV

American Water Works Association – Water Distribution Operator Grade III Cross-Connection Control Specialist

University of California, Riverside Supervisory Excellence Certification

A-9 Innovation

Describe innovative technologies or methodologies to be employed in the project that could contribute to improved efficiencies in projects throughout the State.

The proposed project to offer rebates to City of Hemet water customers who purchase of high-efficiency clothes washers is not the first of its kind. Many other cities and water districts offer similar programs. We hope to take advantage of learning from the many programs already in operation as we more fully develop and implement our program. In turn, our program may someday serve as an example for other agencies wishing to offer rebates for high-efficiency clothes washers.

A-10 Agency Authority

The following five questions, pertaining specifically to this application, have been addressed by City Attorney Julie Hayward Biggs in a letter dated November 22, 2002, a copy of which is included in this application on pages 15-17.

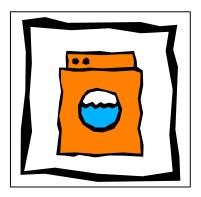
- 1. Does the applicant (official signing A-2, Application Signature Page) have the legal authority to submit an application and to enter into a funding contract with the State? Provide documentation such as an agency board resolution or other evidence of authority.
- 2. What is the legal authority under which the applicant was formed and is authorized to operate?
- 3. Is the applicant required to hold an election before entering into a funding contract with the State?
- 4. Will the funding agreement between the applicant and the State be subject to review and/or approval by other government agencies? If yes, identify all such agencies (e.g. Local Area Formation Commission, local governments, U.S. Forest Service, California Coastal Commission, California Department of Health Services, etc.).
- 5. Is there any pending litigation that may impact the financial condition of the applicant, the operation of the water facilities, or its ability to complete the proposed project? If none is pending, so state.

(Required for construction projects only, including meter installations.)					
Not applicable to proposed project.					

Application Part B—Engineering and Hydrologic Feasibility

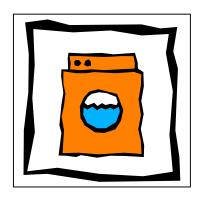
(Application Part B required for construction projects only, including meter installations.)

Not applicable to proposed project.

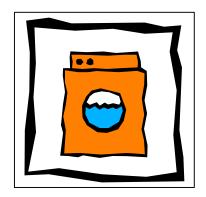


Application Part C—Plan for Completion of Environmental Documentation and Permitting Requirements

This project is not subject to CEQA or NEPA.



Application Part D- Need for Project and Community Involvement



D-1 Need for the Project

Water Supply Sources

The City of Hemet currently has two (2) water supply sources for its municipal system:

- 1) Local groundwater pumped by nine (9) City-owned wells and two (2) leased wells. Seven (7) of the City-owned wells pump water from the Hemet Groundwater Basin, the four (4) remaining wells (including the two leased wells) are located in the San Jacinto Groundwater Basin.
- 2) In addition to groundwater, the City has three (3) connections with Eastern Municipal Water District (EMWD).

Water levels in the Hemet and San Jacinto Groundwater Basins have been steadily declining since the early 1940's. These declining levels are due to drought as well as increasing demand. This has resulted in combined annual overdrafts that have, at times, exceeded 10,000 acre-feet. (EMWD State of the Hemet/San Jacinto Basins White Paper, 2000). Neither the Hemet Basin nor the San Jacinto Basin has been adjudicated and at the present time there are no institutional limitations on groundwater extractions.

The City of Hemet, along with EMWD, Lake Hemet Municipal Water District, the nearby City of San Jacinto, and private water producers all obtain water from these basins. As a result, all water producers are currently in the process of developing an Integrated Water Management Plan for the Hemet / San Jacinto Basins. To address the overdraft condition and to provide a reliable source of water supply into the future, the plan proposes the possibility of allotting pumping rights to the various producers and levying water assessments to generate funds to replenish the groundwater basins with imported water.

Existing Water Distribution System Facilities

The City of Hemet water distribution system consists of one pressure zone that operates between 60 and 105 PSI. There are a total of 9,684 service connections in the City's service area. There were approximately 343 service connection breaks/leaks in the City's distribution system in 1999, according to the annual report to the California Department of Health Services. The majority of the leaks were attributed to breaks in the service line between the main and the meter. In most cases this was due to the polyethylene black plastic that was used extensively in the 1970's and 1980's. To identify and address system deficiencies, the City of Hemet will soon be conducting a System Rehabilitation Feasibility Study funded by a grant from the Infrastructure Rehabilitation Program Feasibility Grant Program.

Consistency with Local/Regional Water Management Plans

With the implementation of the Hemet / San Jacinto Integrated Water Management Plan to address the current overdraft condition of the two basins, the City anticipates being able to continue to meet future water demands from the local groundwater basins. However, to do so will require more aggressive conservation efforts on behalf of all water producers, including the City of Hemet. This proposed project to offer city of Hemet water customers rebates toward the purchase of high-efficiency clothes washers is projected to result in an annual estimated water savings, of 6,647 gallons per household with a new high-efficiency clothes washer annually, thus reducing the amount of water pumped from the groundwater basins.

Expected Impacts if Proposed Project Not Implemented

If the proposed project is not implemented, expected impacts within the agency's service area include:

- Diminished ability to reduce the amount of water pumped from the local groundwater basins.
- Reduced public awareness of the water savings possible through use of high-efficiency clothes washers.

D-2 Outreach, Community Involvement, Support, Opposition

Public Outreach Plan

- The Hemet City Council would formally approve the project and accept the grant funding in a public meeting, which would provide an initial notification to the public concerning the project.
- Press releases will be prepared and released to local media sources concerning the rebate program and its benefits in terms of cost savings and enhanced environmental protection.
- All City of Hemet Water Department customers will receive notification of the rebate program through utility bill inserts.

While the project is not expected to provide people or organizations with training or employment, social and economic benefits will be realized through cost savings to City of Hemet water customers through use of less water. In addition, both rebate program participants and non-participating customers who receive information will develop an increased awareness of the importance of water conservation and the benefits of high-efficiency clothes washers.

Consistency with Local and Regional Plans

The proposed project is consistent with the City of Hemet Water Conservation Plan (Section 82-121 to 82-134 of the Hemet Municipal Code) established to conserve water supplies and to avoid or minimize the effects of any future water shortage. On August 27, 2002, the Hemet City Council adopted Resolution Bill No. 02-072, implementing a program of voluntary water conservation to reduce water use by ten percent.

Community / Other Agency Involvement & Project Opposition

Information concerning the high-efficiency clothes washer rebate program will be made available to the community through as many avenues as possible, including distribution of information to all city of Hemet Water Department customers through utility bill inserts, and press releases to local newspapers. There is no known opposition to the proposed program.

Application Part E—Water Use Efficiency Improvements and Other Benefits



E-1 Water Use Efficiency Improvements

The proposed project will result in improved water use efficiency as a result of the reduction of the amount of water used by City of Hemet water customers who purchase and use high-efficiency clothes washers. The following table quantifies how the proposed rebate program will result in improved water use efficiency:

Projected Annual Water Savings Proposed High-Efficiency Clothes Washer Rebate Program						
Average Gallons Saved / Washer	No. of Washers Purchased Through Rebate Program	Total Average Gallons Saved	Total Water Saved (Acre-Feet)			
6,647*	400	325,900	8.16			

^{*} Obtained by averaging water savings calculated for each of 32 2.65-tub volume high-efficiency clothes washers on the Energy Star Clothes Washer list located at www.energystar.gov. The 2.65-tub volume washers were selected because this tub volume was the most frequently occurring volume on the list.

E-2 Other Project Benefits

Additional Project Benefits

In addition to saving an average of 6,647 gallons of water per year, use of a high-efficiency clothes washer will result in the following benefits:

- <u>Cleaner Clothes</u> These machines rinse the clothes better and get out more of the detergent.
- <u>Less Detergent</u> Because the machines rinse better, less detergent is needed. Users are advised to try only a third as much detergent as used formerly with top-loading models.
- Wash Clothes More Gently These new washers clean with a gentle tumble action instead of stirring laundry with an agitator. The result is less lint in dryers and less pilling on fabric. Clothes last longer. Delicate items once hand washed or dry-cleaned can be washed in the new high-efficiency washers.
- Run More Quietly Tumble action machines run so quietly that some new users wonder if their machines are running at all.
- <u>Handle Large and Bulky Items</u> Tumble action machine owners do not have to go to the laundromat to wash quilts, sleeping bags and pillows.
- <u>Environmentally Friendly</u> High-efficiency machines use about 60% less energy and 40% less water than conventional agitator machines.
- <u>Shortened Drying Time</u> Tumble action machines have a high speed spin cycle which means clothes come out of the washer much less wet, which translates into shorter time in the dryer.
- Money Savings City of Hemet customers can expect to save \$1.717 per 100 cubic feet (CCF) of water saved. Based on an average of 6,647 gallons (8.89 CCF) saved per year, the typical customer would see an annual reduction in the cost for water of \$15.20. But that is just the beginning of the savings. A higherficiency clothes washer owner will also use their gas or electric

dryer less, spend less on detergent, spend less on clothes (because the ones they have will last longer), and spend less at the dry cleaner (since many formerly dry-clean-only items can be machined washed).

The above information was obtained from several sources, including the City of Seattle – www.ci.seattle.wa.us, the United States Environmental Protection Agency Energy Star website – www.energystar.gov, and the Santa Clara Valley Water District – www.valleywater.org.

CALFED Objectives

Although the proposed project is not within the CALFED solution area, water conservation projects such as this will reduce the amount of local groundwater used, which will in turn reduce the need for imported water in the future. Should the City of Hemet be required to import water, it would most likely be provided through Eastern Municipal Water District, from the State Water Project and/or the Colorado River.

Application Part F – Economic Justification: Benefits to Costs



F-1 Net Water Savings

The proposed high-efficiency clothes washer rebate program is expected to demonstrate a net water savings by reducing losses to the atmosphere through evaporation and transpiration. wastewater from the City of Hemet flows to an Eastern Municipal Water District (EMWD) wastewater treatment facility. interview conducted on Tuesday, November 26, 2002, Doug Hefley from the EMWD Waste Water Division indicated that EMWD records show an average evaporation rate of 5.5% from sewer treatment plant ponds. Based on this evaporation rate, a net water savings would be realized as a result of the rebate program due to the fact that the replacement of 400 typical top-loading machines with new high-efficiency clothes washers would reduce water use, and therefore reduce the amount of waste water produced by 8.16 acre feet each year. This would mean that there would be 8.16 acre-feet less water in the treatment ponds to evaporate. A calculation of the estimated net water savings is shown in the table below.

Projected Net Water Savings Proposed High-Efficiency Clothes Washer Rebate Program						
Total Annual Reduction						
in Waste Water with						
Use of 400 High-						
Efficiency Clothes	Annual Evaporation					
Washers	Rate From EMWD	Net Water Savings				
(Acre-Fee Per Year)	Sewer Treatment Ponds	(Acre-Feet Per Year)				
8.16	5.5%	0.45				

F-2 Project Budget and Budget Justification

Project Budget

Proposed Budget High-Efficiency Clothes Washer Rebate Program CATEGORY AMOUNT (a) Land Purchase/Easement (b) Planning/Design/Engineering (c) Materials/Installation (d) Structures (e) Equipment Purchases/Rentals (f) | Environmental Mitigation/Enhancement (g) Construction Administration/Overhead (h) Legal & License Fees (i) Other (Rebates - 400 @ \$125) \$ 50,000 Other (Advertising and Program Administration) \$ 3,750 (j) Contingency Costs up to 15 percent of budget (k) TOTAL \$ 53,750

F-3 Economic Efficiency

Quantifiable Direct Economic Benefits

The proposed high-efficiency clothes washer rebate program will result in a quantifiable direct economic benefit to project participants: An annual savings of \$15.20 for a typical customer on the cost of water, as calculated below:

Direct Economic Benefit Proposed High-Efficiency Clothes Washer Rebate Program						
	Average Annual					
Average Annual	Water Savings					
Water Savings	Per Washer					
Per Washer	(100 cubic feet	Water Cost	Total Annual			
(gallons)	[CCF])	(Per 100 CCF)	Cost Savings			
6,647	8.89	\$ 1.717	\$ 15.20			

Additional Quantifiable Economic Benefits

A high-efficiency clothes washer owner will also reduce the cost of electricity and/or gas used for washer operation and heating of water. The exact amount depends upon the type of energy used, the washer used and the rate charged.

Analysis assumptions

Period of analysis. The economic evaluation for this project is based on an analysis period of 13 years. Average clothes washer life of 13 years was obtained from U.S. Department of Energy Office of Energy Efficiency and Renewable Energy –

Project costs (Tables 1, 2, and 3). Project capital costs are confined to the cost of providing \$125 rebates to 400 City of Hemet Water Department customers, for a total cost of \$50,000.

Avoided Cost of Current Supply Source (Table 4a). Implementation of the proposed project is expected to result in an annual savings of 8.16 acre-feet of water (See Table in Section E-1). If the proposed project is not implemented, there will not be an 8.16 acre-feet reduction in the amount of water annually pumped from City wells. Multiplying 8.16 acre-feet of water by the current cost of \$ 747.93 per acre-foot, results in a total of \$ 6,103.11, which would be the portion of the cost of water that would be avoided as a result of the proposed project.

Alternative Cost of Future Supply Sources (Table 4b). Not applicable to the proposed project

Water Supply Vendibility (Table 4c). No applicable to the proposed project.

Appendix-Benefit / Cost Analysis Tables

Table 1: Capital Costs

Table 2: Annual Operations and Maintenance Costs

Table 3: Total Annual Costs

Table 4a: Water Supply Benefits: Avoided Cost of Current Supply Sources

Table 4b: Water Supply Benefits: Alternative Cost of Future Supply

Sources

Table 4c: Water Supply Benefits: Water Supplier Revenue (Vendibility)

Table 4d: Total Water Supply Benefits

Table 5: Benefit/Cost Ratio

Table 6: Capital Recovery Factor

Table 1: Capital Costs

	Capital Cost Category (a)	Cost (b)	Contingency Percent	Contingency \$ (d)	Subtotal (e)
			(c)	(bxc)	(b+d)
(a)	Land Purchase/Easement				
(b)	Planning/Design/Engineering				
(c)	Materials/Installation				
(d)	Structures				
(e)	Equipment Purchases/Rentals				
(f)	Environmental Mitigation/Enhancement				
(g)	Construction/Administration/Overhead				
(h)	Project Legal/License Fees				
(i)	Other (Rebates - 400 @ \$125)	\$ 50,000	0	0	\$ 50,000
	Other (Advertising & Administration)	\$ 3,750			\$ 37,50
(j)	Total (1) (a + + i)	\$ 53,750	0	0	\$53,750
(k)	Capital Recovery Factor: use Table 6				0.1130
(I)	Annual Capital Costs (j x k)				\$ 6,073

⁽¹⁾ Costs must match Project Budget prepared in Section F-2.

Table 2: Annual Operations and Maintenance Costs

Administration (a)	Operations (b)	Maintenance (c)	Other (d)	Total (e)	
Not Applicable					

Table 3: Total Annual Costs

Annual Capital Costs (1) (a)	Annual O&M Costs (2) (b)	Total Annual Costs (c) (a+b)
\$6,073	0	\$6,073

⁽¹⁾ From Table 1 line (I)

⁽²⁾ From Table 2 Total, column (e)

Table 4: Water Supply Benefits

1101 maior carmigo (acro 1004) carji	Net water	savings	(acre-feet/year):	.45
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4a. Avoided Costs of Current Supply Sources

Sources of Supply	Cost of Water (\$/AF)	Annual Displaced Supply (AF)	Annual Avoided Costs (\$)
(a)	(b)	(c)	(d)
			(b x c)
City of Hemet Water Distribution System	\$ 747.93	8.16	\$ 6,103.11
Total	\$ 747.93	8.16	\$ 6,103.11

4b. Alternative Costs of Future Supply Sources

Future Supply Sources	Total Capital Costs (\$)	Capital Recovery Factor (1)	Annual Capital Costs (\$)	Annual O&M Costs (\$)	Total Annual Avoided Costs (\$)
(a)	(b)	(c)	(d)	(e)	(f)
			(b x c)		(d + e)
Not Applicable					
Total					-0-

(1) 6% discount rate; Use Table 6- Capital Recovery Factor

4c. Water Supplier Revenue (Vendibility)

Parties Purchasing Project Supplies	Amount of Water to be Sold	Selling Price (\$/AF)	Expected Frequency of Sales (%) (1)	Expected Selling Price (\$/AF)	"Option" Fee (\$/AF) (2)	Total Selling Price (\$/AF)	Annual Expected Water Sale Revenue (\$)
(a)	(b)	(c)	(d)	(e) (c x d)	(f)	(g) (e + f)	(h) (b x g)
Not Applicable							
Total							-0-

- (1) During the analysis period, what percentage of years are water sales expected to occur? For example, if water will only be sold half of the years, enter 50% (0.5).
- (2) "Option" fees are paid by a contracting agency to a selling agency to maintain the right of the contracting agency to buy water whenever needed. Although the water may not be purchased every year, the fee is usually paid every year.

4d: Total Water Supply Benefits

(a) Annual Avoided Cost of Current Supply Sources (\$) from 4a, column (d)	\$ 6,103.11
(b) Annual Avoided Cost of Alternative Future Supply Sources (\$) from 4b, column (f)	-0-
(c) Annual Expected Water Sale Revenue (\$) from 4c, column (h)	-0-
(d) Total Net Annual Water Supply Benefits (\$) (a + b + c)	\$ 6,103.11

11/26/2002

Table 5: Benefit/Cost Ratio

Project Benefits (\$) (1)	\$ 6,103.00
Project Costs (\$) (2)	\$6,073.00
Benefit/Cost Ratio	1.005

- (1) From Tables 4d, row (d): Total Annual Water Supply Benefits
- (2) From Table 3, column (c): Total Annual Costs

Table 6: Capital Recovery Factor

(Use to obtain factor for Table 1, Line k or Table 4b, Column (c)

Life of Project (in years)	Capital Recovery Factor
7	0.1791
8	0.1610
9	0.1470
10	0.1359
11	0.1268
12	0.1193
13	0.1130

Average clothes washer life of 13 years obtained from U.S. Department of Energy Office of Energy Efficiency and Renewable Energy – Clothes Washer Cost-Effectiveness Example – www.eren.doe.gov/femp/procurement/clothes_cost.html